GAATTCCGGGTGGGTAGGTCGGGCAGGGTAGGACAGGCCTAAGAGAGAGGCCGGACAGACCTCC
TTTGGAAGCAGCCACTTCTGGTCCCCATCCCTGGAGCGATCGAGCGCAGGATCTGCTGTCCCAT
GGGACAGCAGATCTCTCTTCCCAGTGCACAGCTTCTCCTCTGCCTGTTTTCCCTGCTTCCAGTG
CTCCAGGTGGCCCAACCAGGCCAGGCACCCCAGGACCAGCCCCTGTGGACACTTTTGGAGCAGT
ACTGCCACAGGACCACAATTGGGAATTTTTCAGGTCCCTACACCTACTGCAACACGACCTTGGA
CCAGATCGGGACCTGCTGGCCACAGAGCGCACCCGGAGCCCTAGTAGAGAGACCGTGCCCCGAG
TACTTCAATGGCATCAAGTACAACACGACCCGGAATGCCTACAGAGAGTGCCTGGAGAACGGGA
CCTGGGCCTCAAGGGTCAACTACTCACACTGCGAACCCATTTTGGATGACAAGCAGAGAAAGTA
TGACCTGCATTACCGAATCGCCCTCATTGTCAACTACCTGGGTCACTGTGTTTCCGTGGTGGCC
CTGGTGGCCGCTTTCCTGCTTTTCCTAGTGCTGCGGAGTATCCGCTGCCTGAGGAATGTGATCC
ACTGGAACCTCATCACCACCTTCATTCTGAGAAACATCGCGTGGTTCCTGCTGCAACTCATCGA
CCACGAAGTGCACGAGGGCAATGAGGTCTGGTGCCGCTGCATCACCACCATCTTCAACTATTTT
GTGGTCACCAACTTCTTCTGGATGTTTGTGGAGGGCTGCTACCTGCACACGGCCATTGTCATGA
CGTACTCCACAGAGCACCTGCGCAAGTGGCTTTTCCTCTTCATTGGATGGTGCATTCCCTGCCC
TATCATCATCGCCTGGGCAGTTGGCAAACTCTACTATGAGAATGAGCAGTGCTGGTTTGGCAAG
GAAGCTGGTGATTTGGTGGACTACATCTACCAGGGCCCCGTCATGCTTGTGCTGTTGATCAATT
TTGTATTTCTGTTTAACATCGTCAGGATCCTGATGACGAAGTTACGAGCATCCACCACGTCCGA
GACAATCCAATACAGGAAGGCAGTGAAGGCCACGCTGGTCCTCCTCCCCCTGTTGGGCATCACC
TACATGCTCTTCTTTGTCAATCCTGGCGAGGACGACCTGTCCCAGATTGTGTTCATCTACTTCA
ACTCTTTCCTGCAGTCCTTCCAGGGTTTCTTTGTGTCCGTTTTCTACTGCTTCTTCAATGGAGA
GGTGCGCGCGGCCCTGAGAAAGCGGTGGCACTCGGGGCAGGACCACCACGCCCTCCGGGTGCCT
GTGCGCCGGGCCATGTCCATCCCTACGTCGCCCACCAGGATCAGCTTCCACAGCATCAAGCAGA
CAGCTGCTGTGTGACCCTCTGTCACCGTCTGCCCGGCAGTCCACCACTGAGGCAGCTTCTCCAT
CCTTTACAGCCTTCCCCTGGGTCCTCCTTGCTACCCTGACCCACAGGTACAAGGTACAGGAGAA
GGGAGGAGAACGAACACTCCC (SEQ ID NO:1)

FIGURE 1

underlined = deleted in targeting construct

[ ] = sequence flanking Neo insert in targeting construct

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GAATTCCGGGTGGGTAGGTCGGGCAGGGTAGGACAGGCCTAAGAGAGAGGCCGGACAGAC
CTCCTTTGGAAGCAGCCACTTCTGGTCCCCATCCCTGGAGCGATCGAGCGCAGGATCTGC
TGTCCCATGGGACAGCAGATCTCTCTTCCCAGTGCACAGCTTCTCCTCTGCCTGTTTTCC
CTGCTTCCAGTGCTCCAGGTGGCCCAACCAGGCCAGGCACCCCAGGACCAGCCCCTGTGG
ACACTTTTGGAGCAGTACTGCCACAGGACCACAATTGGGAATTTTTCAGGTCCCTACACC
TACTGCAACACGACCTTGGACCAGATCGGGACCTGCTGGCCACAGAGCGCACCCGGAGCC
CTAGTAGAGAGACCGTGCCCCGAGTACTTCAATGGCATCAAGTACAACACGACCC[GGAA
TGCCTACAGAGAGTGCCTGGA]GAACGGGACCTGGGCCTCAAGGGTCAACTACTCACACT
GCGAACCCATTTTGGATGACAAGCAGAGAAAGTATGACCTGCATTACCGAATCGCCCTCA
TTGTCAACTACCTGGGTCACTGTGTTTCCGTGGTGGCCCTGGTG[GCCGCTTTCCTGCTT
TTCCTAGTGCTGCG]GAGTATCCGCTGCCTGAGGAATGTGATCCACTGGAACCTCATCAC
CACCTTCATTCTGAGAAACATCGCGTGGTTCCTGCTGCAACTCATCGACCACGAAGTGCA
CGAGGGCAATGAGGTCTGGTGCCGCTGCATCACCACCATCTTCAACTATTTTGTGGTCAC
CAACTTCTTCTGGATGTTTGTGGAGGGCTGCTACCTGCACACGGCCATTGTCATGACGTA
CTCCACAGAGCACCTGCGCAAGTGGCTTTTCCTCTTCATTGGATGGTGCATTCCCTGCCC
TATCATCATCGCCTGGGCAGTTGGCAAACTCTACTATGAGAATGAGCAGTGCTGGTTTGG
CAAGGAAGCTGGTGATTTGGTGGACTACATCTACCAGGGCCCCGTCATGCTTGTGCTGTT
GATCAATTTTGTATTTCTGTTTAACATCGTCAGGATCCTGATGACGAAGTTACGAGCATC
CACCACGTCCGAGACAATCCAATACAGGAAGGCAGTGAAGGCCACGCTGGTCCTCCTCCC
CCTGTTGGGCATCACCTACATGCTCTTCTTTGTCAATCCTGGCGAGGACGACCTGTCCCA
GATTGTGTTCATCTACTTCAACTCTTTCCTGCAGTCCTTCCAGGGTTTCTTTGTGTCCGT
TTTCTACTGCTTCTTCAATGGAGAGGTGCGCGCGGCCCTGAGAAAGCGGTGGCACTCGGG
GCAGGACCACCACGCCCTCCGGGTGCCTGTGCGCCGGGCCATGTCCATCCCTACGTCGCC
CACCAGGATCAGCTTCCACAGCATCAAGCAGACAGCTGCTGTGTGACCCTCTGTCACCGT
CTGCCCGGCAGTCCACCACTGAGGCAGCTTCTCCATCCTTTACAGCCTTCCCCTGGGTCC
TCCTTGCTACCCTGACCCACAGGTACAAGGTACAGGAGAAGGGAGGAGAACGAACACTCC
C
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FIGURE 2A

Gene Sequence Structure *

441 bp   Sequence Deleted   582 bp

Size of full-length cDNA: 1557 bp

Targeting Vector* (genomic sequence)

LacZ-Neo

Cassette

Construct Number: 3050

5' arm   3' arm

5' probe   3' probe

Arm Length:
5': 3.1 kb
3': 2.5 kb

—————— Targeting Vector
- - - - - Endogenous Locus

* Not drawn to scale

5'>AGCCCTATGTGTAATTTTCAT ATAAATGACTCATATTAGCTTTCA GATATGCATTGTGTTTTCAGGTCT GGGAGAACTAAGGAGTGTGGACCT TATCCTGCAGGTACTAGGGAGCCA GGGAGGGCTTTTGAGGCGGGAGGG CGTCCTGACTCTCAGTGGTTGGCA TCTTCTCTAGGGAATGCCTACAGA GAGTGCCTGGA<3' (SEQ ID NO:2)

5'>GCCGCTTTCCTGCTTTTCCTA GTGCTGCGGTGAGTCCACCTCCAC CCTGCTTCCTCCTTGTCTTTGCCT CTCCCAGACATTGTCTCTTCCATT CTGGGGCCCCGGGAACAGTAGCCA GAAGTGGGTTTAAGTCAGACCCCC AGGGCCATGACCACCAGCCTGCCT GAAGGGTAGAGAGCAAGCCCAGCT GGGACCACCAG<3' (SEQ ID NO:3)

FIGURE 2B